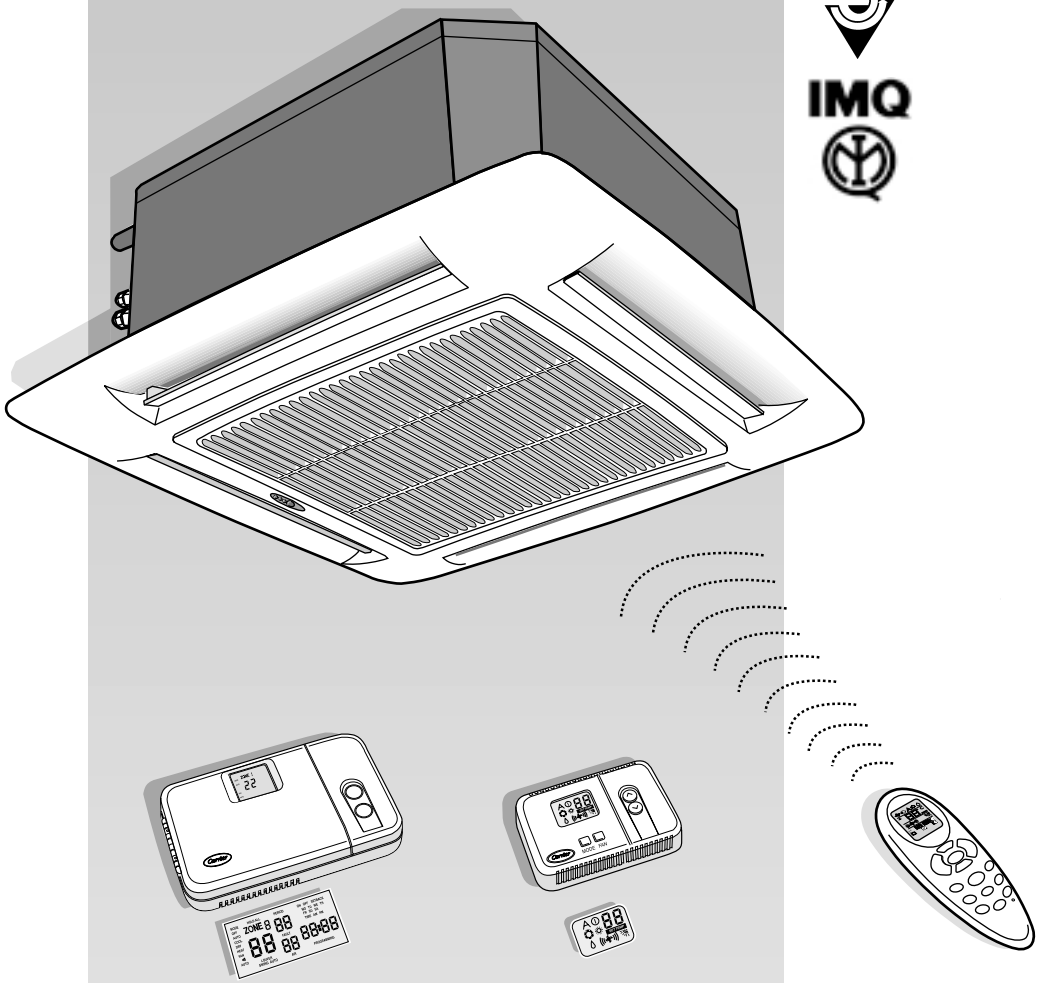
Carrier

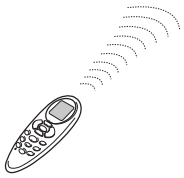
Quality Management Systems

40KMC---N

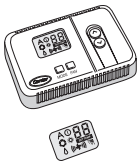


INSTALLATION MANUAL

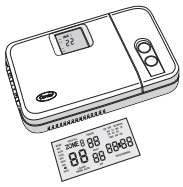
40KMC---N
Split system “Global cassette” indoor unit



IR Remote Control



“Room Controller”



“Zone Manager”

The unit can be used with infrared Remote Control, with the Carrier “Room Controller” or “Zone Manager”.
Infrared control installation instructions are contained in the unit instruction and maintenance manual.
Remote controls intallation instructions are contained in the relevant manuals, supplied with the remote controls.

The operation and maintenance instructions for the indoor unit and the installation instructions for the indoor and the outdoor unit are given in the manuals for each unit. These are supplied with the unit.

Contents

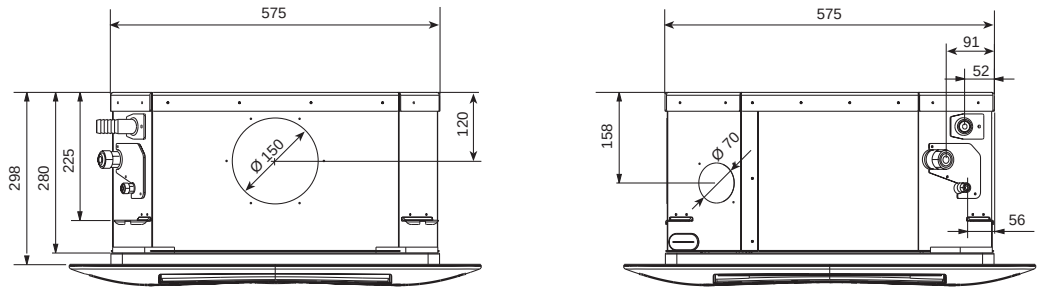
	Page
Dimensions and weight	2
Technical data	3
Technical data of electric heaters	3
Material supplied	3
Operating limits	3
Components required for a complete installation	3
General information	4
Accessories	4
Warnings: avoid	5/6
Installation	6/8
Refrigerant connections	9
Electrical connections	10/14
Fresh air renewal and conditioned air supply to adjacent room	15/16
System configuration	17
Operating test, address switch and address selector	18
Fault code, button T: “EMERGENCY” and guide for the owner	19

Sizes	Indoor unit item number 50Hz with grille	Indoor unit item number 50Hz + electric heater with grille	Indoor unit item number 60Hz with grille
12	40KMC012-7N	40KMC112-7EN	40KMC012-3N
18	40KMC018-7N	40KMC118-7EN	40KMC018-3N
24	40KMC024-7N	40KMC124-7EN	40KMC024-3N
28	40KMC028-7N	40KMC328-7EN	40KMC028-3N
36	40KMC036-7N	40KMC336-7EN	40KMC036-3N
48	40KMC048-7N	40KMC348-7EN	40KMC048-3N
60	40KMC060-7N	40KMC360-7EN	40KMC060-3N

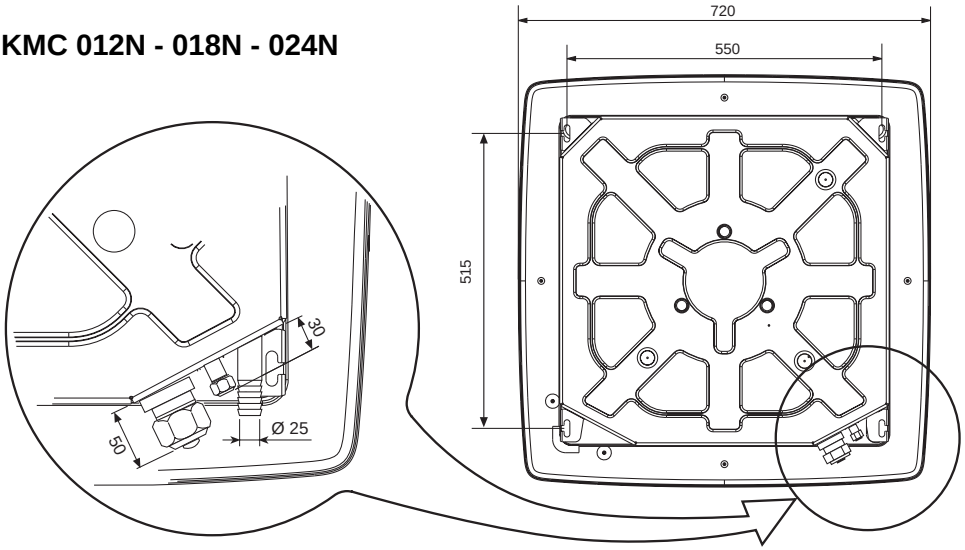
ENGLISH

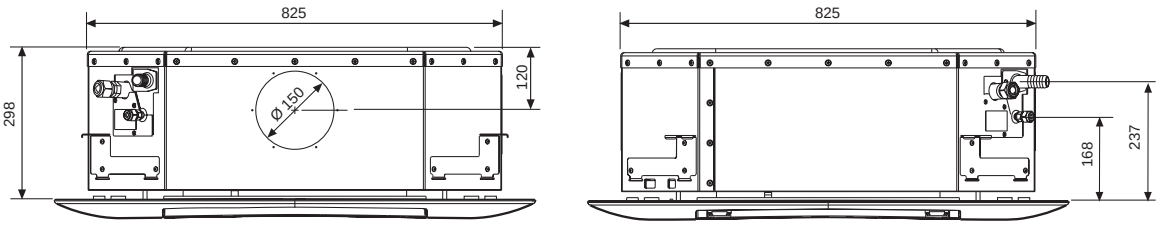
40KMC---N

Dimensions and weight

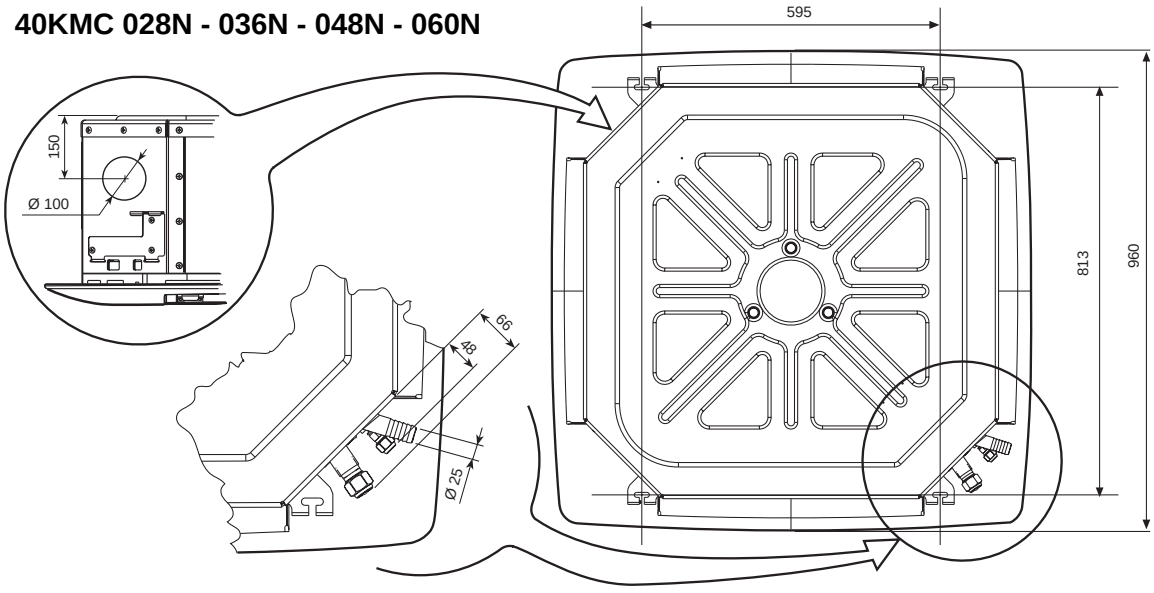


40KMC 012N - 018N - 024N





40KMC 028N - 036N - 048N - 060N



40KMC---7N		012	018	024	028	036	048	060
Unit	kg	17,5	19	19	36	38	38	41
Frame / Grille assembly	kg	3	3	3	5	5	5	5

40KMC---N
Technical data

Table I: Nominal data

POWER INPUT (WATT)			
Cooling only			
Sizes	**standard**	Cooling	Heating
12	40KMC012-7N	75	75
18	40KMC018-7N	80	80
24	40KMC024-7N	105	105
28	40KMC028-7N	107	107
36	40KMC036-7N	131	131
48	40KMC048-7N	178	178
60	40KMC060-7N	231	231
Sizes	**with electric heaters**	Cooling	Heating
12	40KMC112-7EN	75	1575
18	40KMC118-7EN	80	2580
24	40KMC124-7EN	105	2605
28	40KMC328-7EN	107	3107
36	40KMC336-7EN	131	3131
48	40KMC348-7EN	178	3178
60	40KMC360-7EN	231	3231

POWER INPUT (WATT)			
Heat pump			
Sizes	**standard**	Cooling	Heating
12	40KMC012-7N	75	75
18	40KMC018-7N	80	80
24	40KMC024-7N	105	105
28	40KMC028-7N	107	107
36	40KMC036-7N	131	131
48	40KMC048-7N	178	178
60	40KMC060-7N	231	231
Sizes	**with electric heaters**	Cooling	Heating
12	40KMC112-7EN	75	1575
18	40KMC118-7EN	80	1580
24	40KMC124-7EN	105	1605
28	40KMC328-7EN	107	2107
36	40KMC336-7EN	131	2131
48	40KMC348-7EN	178	2178
60	40KMC360-7EN	231	2231

Note: For power supply wire size and delay type fuses, refer to the outdoor unit installation instructions.

Table II: Technical data of electric heaters (if installed)

		Heat pump							**Cooling only**						
Mod.		**12**	**18**	**24**	**28**	**36**	**48**	**60**	**12**	**18**	**24**	**28**	**36**	**48**	**60**
Electric heater capacity	**kW**	1.5	1.5	1.5	2 x 1.0	2 x 1.0	2 x 1.0	2 x 1.0	1.5	1.5 + 1.0	1.5 + 1.0	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5
Supply voltage	**V**	230	230	230	230 (*)	230 (*)	230 (*)	230 (*)	230	230 (*)	230 (*)	400 3N	400 3N	400 3N	400 3N
Max. current draw	**A**	6.5	6.5	6.5	8.8	8.8	8.8	8.8	6,5	10.8	10.8	7.5	7.5	7.5	7.5
Control device		GMC electronic control													
Safety thermostat		N° 1 Manual reset thermostat ST1 60°C N° 1 Manual reset thermostat ST2 100°C													
Power supply cables	**mm²**	3 G 1.5	3 G 1.5	3 G 1.5	4 G 1.5	4 G 1.5	4 G 1.5	4 G 1.5	3 G 1.5	3 G 2.5	3 G 2.5	5 G 1.5	5 G 1.5	5 G 1.5	5 G 1.5
Recommended fuse (gL type)	**A**	8	8	8	8	8	8	8	8	12	12	10	10	10	10

*In areas with a 2 kW limit for single-phase electric heaters it is possible to divide the power supply on two phases and neutral of a three phase supply with neutral.
Use cable type H07 RN-F - 4G1,5 mm² - 400V 2N ~

Table III: Material supplied

Description	**Quantity**	**Use**
Installation instructions	1	Indoor unit installation
Owner's Manual	1	Correct use
Fresh air intake baffle	1	Air renewal

Table IV: Operating limits

Cooling / Heating	Refer to outdoor unit installation manual.		
Main power supply	Nominal single-phase voltage Operating voltage limits	230V ~ 50Hz **min. 198V – max. 264V**	230V-240V ~ 60Hz
	Nominal three-phase voltage Operating voltage limits	400V 3N~ 50Hz **min. 342V – max. 462V**	
Electric heater	**27°C**		

Table V: Components required for a complete installation

Name	**Specification**
Connection pipe	40KMC 012N Ø (1/2") 12.70 mm (Gas) / Ø (1/4") 6.35 mm (Liquid) 40KMC 018N, 024N, 028N, 036N, 048N and 060N Ø (1/2") 12.70 mm (Gas) / Ø (1/4") 6.35 mm (Liquid)
Wall sleeve	
Wall cap	
Finishing tape	PVC film
Fastening tape	
Tube insulation	
Drain hose	I.D. 16 - 17 mm
Sealer putty	
- Outdoor power supply cable	H07 RN-F (60245IEC66), cable with synthetic rubber insulation and polychloroprene sheath.
- Electrical connecting cable between indoor and outdoor unit	H07 RN-F (60245IEC66), cable with synthetic rubber insulation and polychloroprenesheath.

Unit installation

Read this instruction manual thoroughly before starting installation.

- **This unit complies with the low-voltage (EEC/73/23) and electromagnetic compatibility (EEC/ 89/336) directives.**
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- Check that the voltage and frequency of the mains power supply are as required for the unit to be installed; the available power source must be adequate to operate all other appliances connected to the same line. Also ensure that national safety code requirements have been followed for the main supply circuit.
- **Connection of the system to the mains power supply is to be carried out in compliance with the wiring diagram shown in the installation instructions of the external section.**
- Connect indoor and outdoor units with field-supplied copper pipes by means of flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO1337), degreased and deoxidized, suitable for operating pressures of at least 4200 kPa and for burst pressure of at least 20700 kPa. Under no circumstances must sanitary type copper pipe be used.
- Where necessary, use field-supplied 25 mm I.D. PVC pipe (not supplied) of appropriate length and with the correct thermal insulation for the condensate drain extension.
- After installation thoroughly test system operation and explain all system functions to the owner.
- Use this unit only for factory approved applications: **the unit cannot be used in laundry or steam pressing premises.**

WARNING:
Disconnect the mains power supply switch before servicing the system or handling any internal parts of the unit.

- Do not open the remote control to avoid possible damage. In case of malfunctioning contact a qualified service engineer.
- This installation manual describes the installation procedures of the indoor unit of a residential split system consisting of two Carrier manufactured units. Do not connect this unit to any other manufacturer's outdoor unit. The manufacturer declines any liability for system malfunction resulting from unauthorised system combinations.
- The manufacturer declines any liability for damage resulting from modifications or errors in the electrical or refrigerant connections. Failure to observe the installation instructions, or use of the unit under conditions other than those indicated in table "Operating limits" of the outdoor unit installation manual, will immediately invalidate the unit warranty.
- Failure to observe electric safety codes may cause a fire hazard in the event of short circuits.
- Inspect equipment for damage during transport. In case of damage file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of malfunction turn the unit off, disconnect the mains power supply and contact a qualified service engineer.
- Maintenance of the refrigerant circuit must only be carried out by qualified personnel.
- All of the manufacturing and packaging materials used for this appliance are biodegradable and recyclable.
- Dispose of the packaging material in accordance with local requiremements.
- This equipment contains refrigerant that must be disposed of correctly. When disposing of the unit at the end of its operational life, take the unit to an authorised waste disposal centre, or to the original equipment dealer, for correct disposal.

Choosing the installation site

Positions to avoid:

- Exposure to direct sunlight.
- Areas close to heat sources.
- On damp walls or in positions that may be exposed to water hazard.
- Where curtains or furniture may obstruct free air circulation.

Recommendations:

- Choose an area free from obstructions which may cause uneven air distribution and/or return.
- Consider using an area where installation is easy.
- Choose a position that allows for the clearances required.
- Look for a position in the room which ensures the best possible air distribution.
- Install unit in a position where condensate can easily be piped to an appropriate drain.

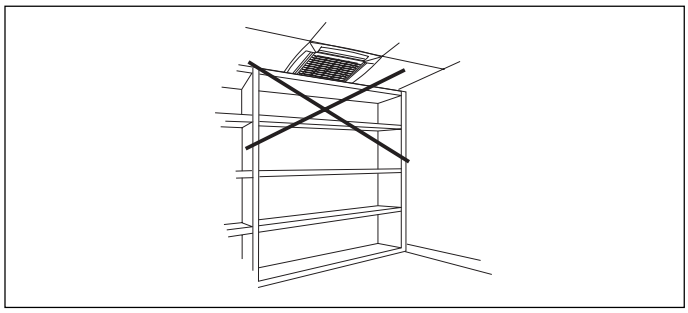
Table VI: Accessories

A= mod. 012, 018, 024. **B**= mod. 028, 036, 048, 060.

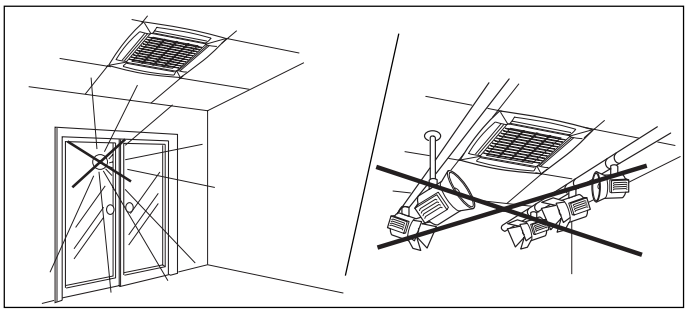
Description	Code	A	B
Electrostatic filter	40GK-900---001-40	X	
	40GK-900---011-40		X
Active carbon filter	40GK-900---002-40	X	
	40GK-900---012-40		X
Room Controller	33MC-RC	X	X

Description	Code	A	B
Air supply outlet obstruction kit (1)	40GK-900---003-40	X	
	40GK-900---013-40		X
Room Controller kit (Grouping)	33MC9002	X	X
Zone manager kit (Zoning)	33MC9001	X	X
Zone manager	33MC-ZM	X	X
Infrared control kit (2)	33MC-MC	X	X

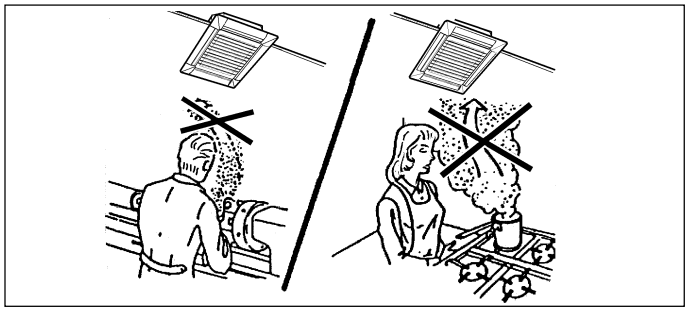
Notes: (1) Not to be used on units equipped with electric heater.
(2) IMQ approved kit.



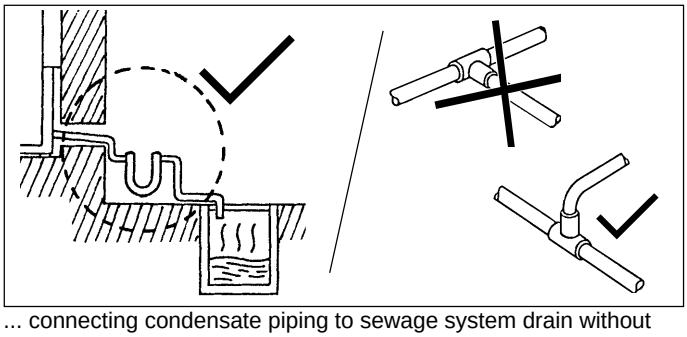
... any obstruction of the unit air intake or supply grilles.



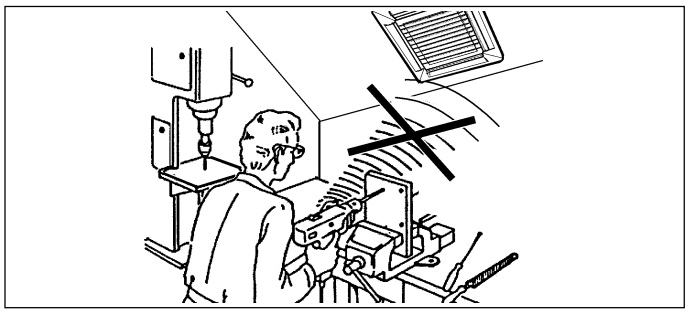
... exposure to direct sunshine, when the unit is operating in the cooling mode; always use shutters or shades.
... positions too close to heating sources which may damage the unit.



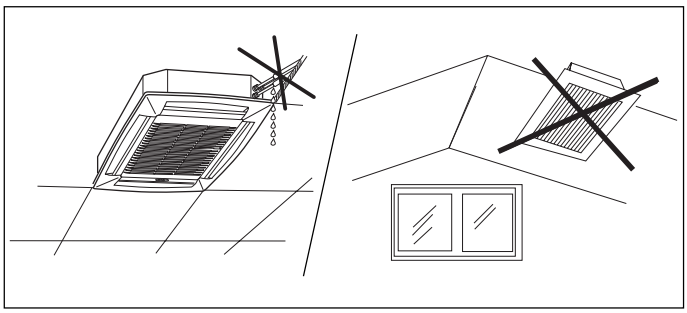
... exposure to oil vapours.



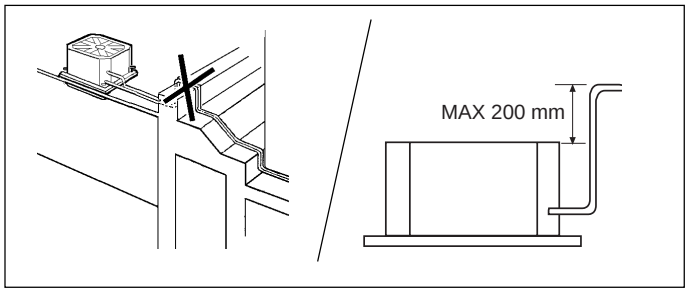
... connecting condensate piping to sewage system drain without appropriate trap. Trap height must be calculated according to the unit discharge head in order to allow sufficient and continuous water evacuation.



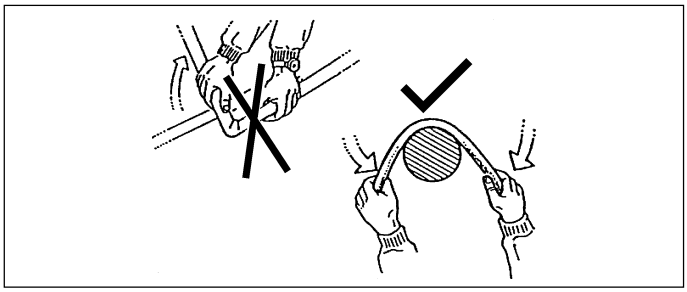
... installation in areas with high frequency waves.



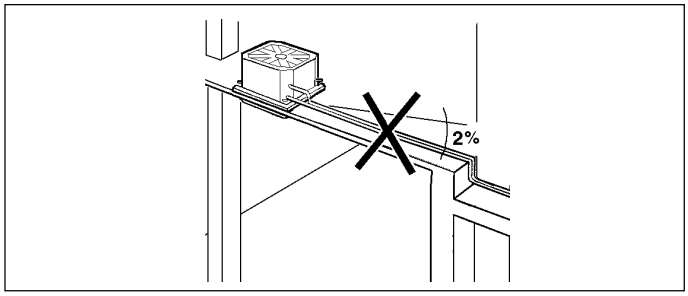
... only partial insulation of the piping.
Non-level installation which will cause condensate dripping.



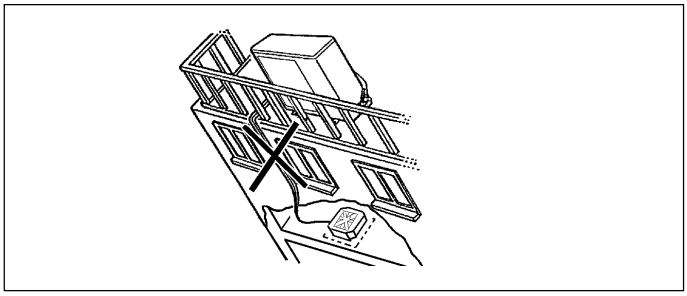
... ascending sections of condensate drain piping.
These may only be used near the unit with a maximum height difference of 200 mm from the top of the unit.



... flattening or kinking the refrigerant pipes or condensate pipes.

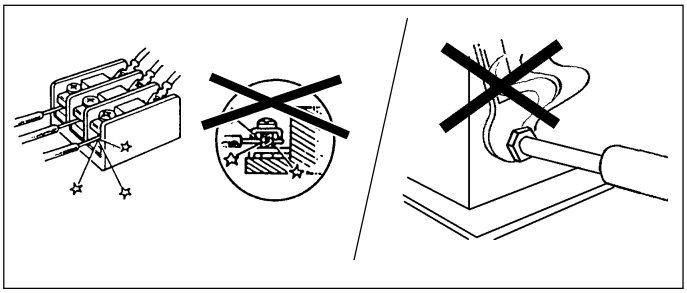


... horizontal sections or curves of condensate drain piping with less than 2% slope.

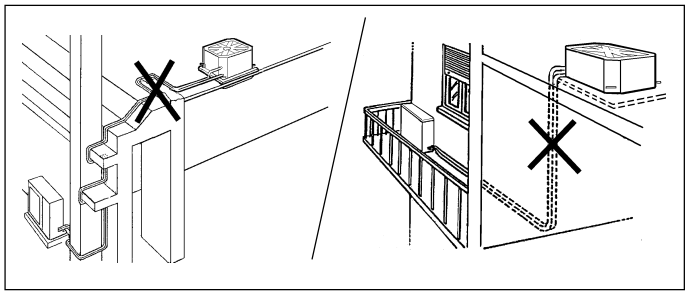


... excessive height difference between outdoor and indoor units (see installation manual of outdoor unit).

Warnings: avoid...

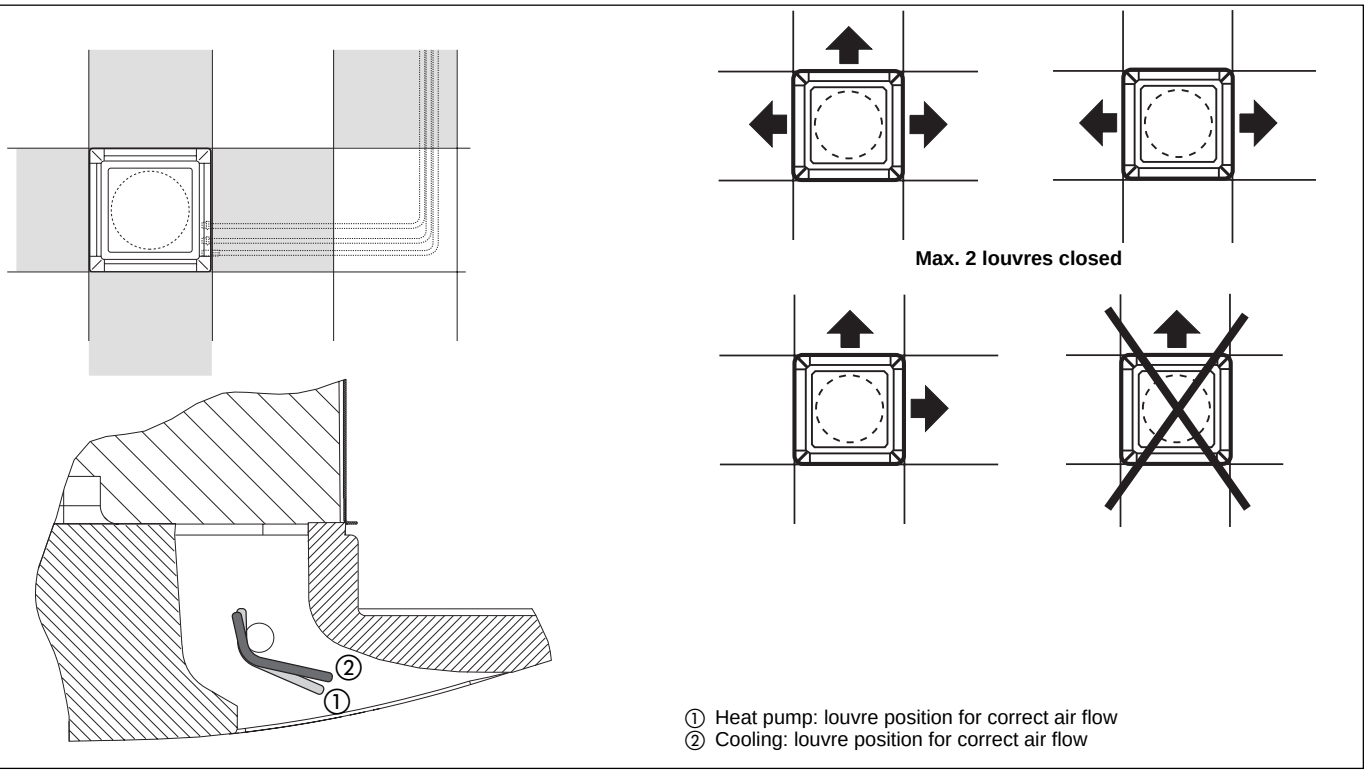


... slack on electrical connections.
... disconnecting refrigerant connections after installation: this will cause refrigerant leaks.



... unnecessary turns and bends in connection pipes (see installation manual of outdoor unit).
Excessive connection pipe length (see installation manual of outdoor unit).

Installation



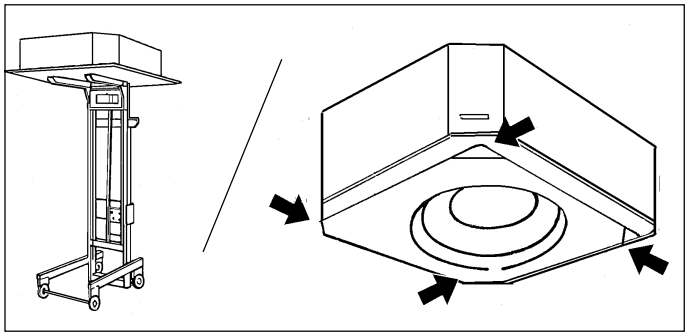
① Heat pump: louvre position for correct air flow
② Cooling: louvre position for correct air flow

- Install the unit as centrally as possible in the room, the air flow direction can be controlled by means of the remote control (where used) or automatically, according to the operating mode (cooling or heating): this will ensure optimum distribution of the air in the room.
- During cooling mode operation the best position for the deflecting louvres is one which allows air diffusion close to the ceiling (Coanda effect).
  In heating mode, the louvres should be positioned so that the air is directed towards the floor, in order to prevent layers of hot air forming in the upper part of the room (this will happen automatically when the deflecting louvres are positioned in the "AUTOMATIC" mode).
  Alternatively the louvres can be placed in intermediate positions (with infrared control only) or allowed to move continuously (SWING).
- In order to allow easy and rapid installation and maintenance, make sure that in the selected position it is possible to remove the ceiling panels or, if the ceiling is constructed using masonry, that access to the unit is guaranteed.

ATTENTION:
Only restrict the air outlets as indicated in the drawing.

WARNING:
To close one or two air outlets use the special kit.

Prior to installation



It is advisable to place the unit as close as possible to the installation site before removing it from the packaging. The grille panel and the remote control are separately packed for maximum protection.

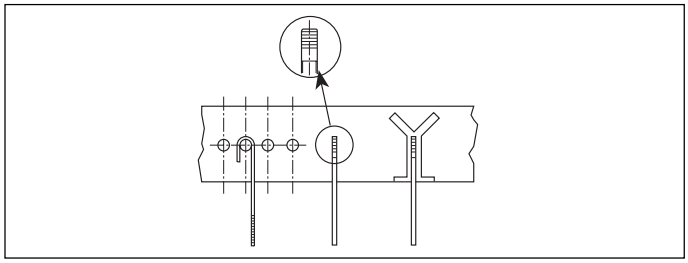
IMPORTANT:
Do not lift the unit by the condensate drain discharge pipe or by the refrigerant connections; hold it by its four corners only.

Unit installation will be facilitated using a stacker.

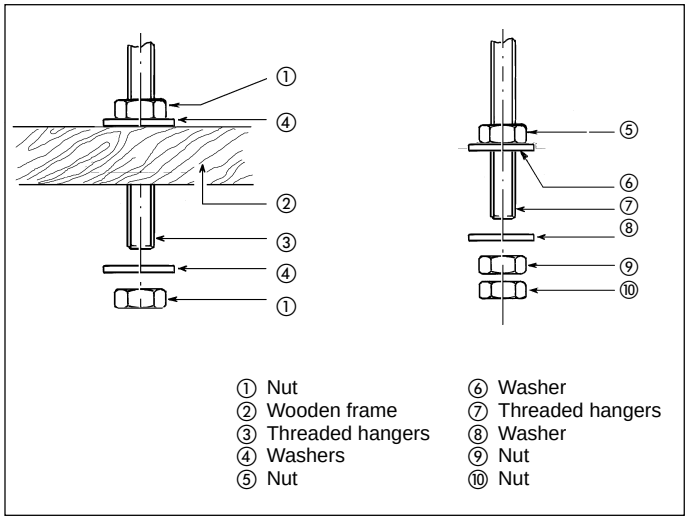
If plaster board ceiling panels are installed the maximum dimensions of the unit housing must not exceed 660 x 660 mm (for models 12-18-24) and 900 x 900 mm (for models 28-36-48-60).

In rooms with high humidity, brackets should be insulated using the self adhesive insulation supplied.

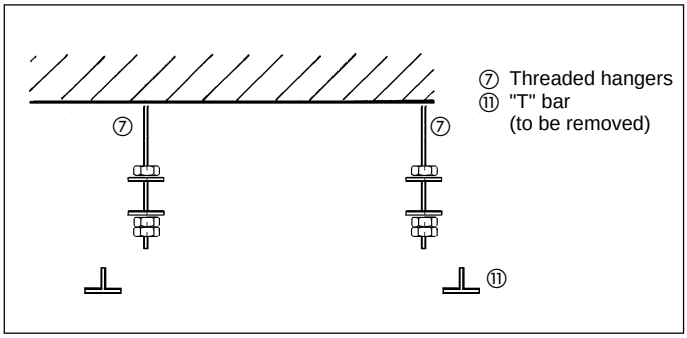
Installation



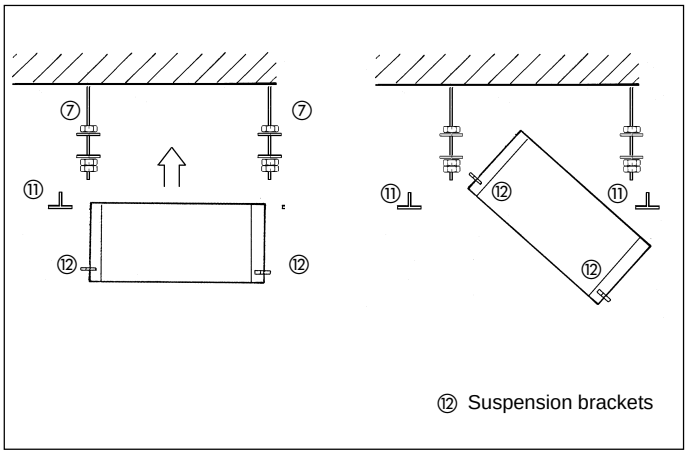
Mark the position of the hangers, refrigerant lines and condensate drain pipe, power supply cables and remote control cable (see dimensions); the cardboard template (supplied with the kit) may be of assistance for this operation.
Depending on the type of ceiling the hangers can be fixed as shown in the drawing.



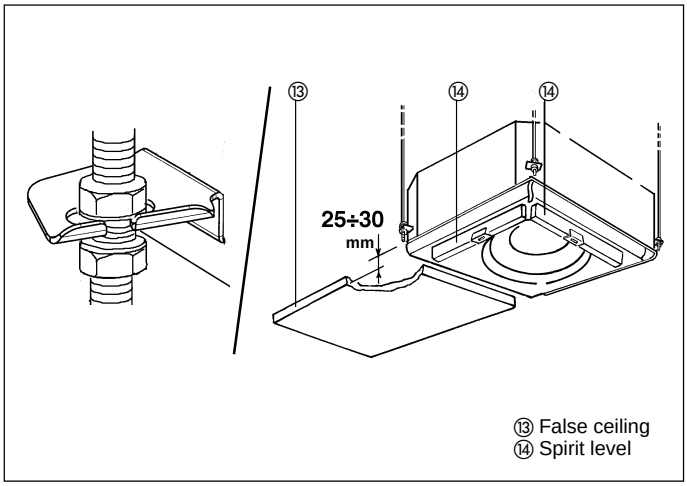
Once the threaded hangers have been positioned, do not tighten the nuts, and insert the washers as shown in the drawing.



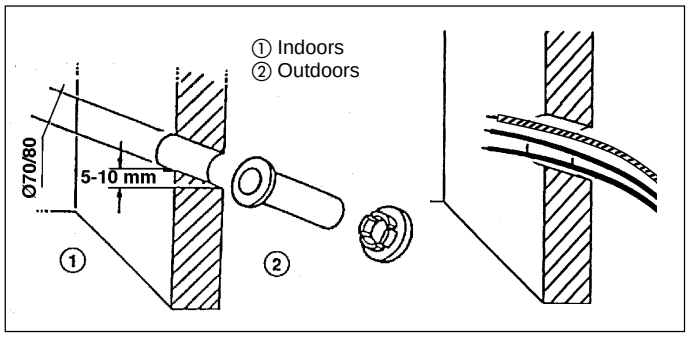
First position the refrigerant lines, as described in the chapter “Refrigerant connections”.
Remove the “T” bar in order to facilitate installation operations.



Carefully lift the unit (without the frame) using the four suspension brackets (or the four corners), inserting it into the false ceiling.
If the “T” bar cannot be removed the unit may need to be tilted (this operation may only be carried out with false ceilings with a minimum height of 300 mm).



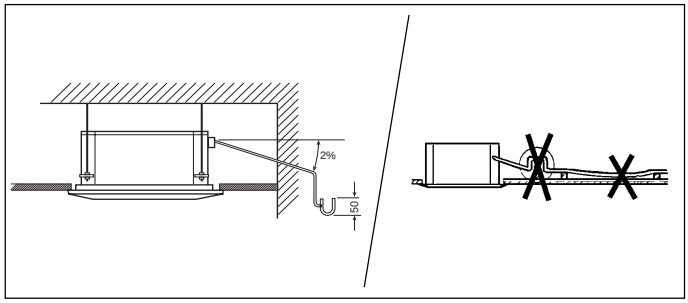
Align and level the unit by adjusting the nuts and locknuts on the threaded hangers, maintaining a distance of 25 - 30 mm between the sheet metal body and the underside of the false ceiling.
Reposition the “T” bar and align the unit in relation to the bar by tightening the nuts and locknuts.
After connection of the condensate drain line and the refrigerant lines, carry out a final check to make sure that the unit is level.

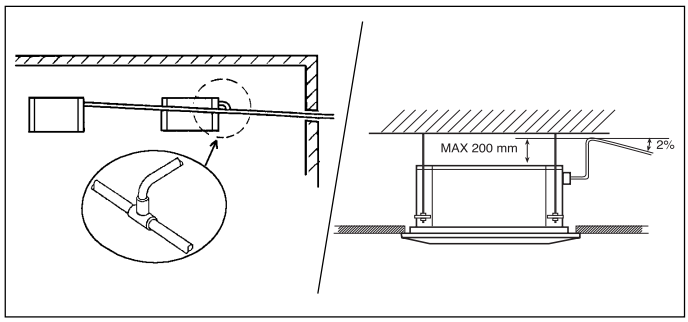


Making the hole for connection pipes in the external wall

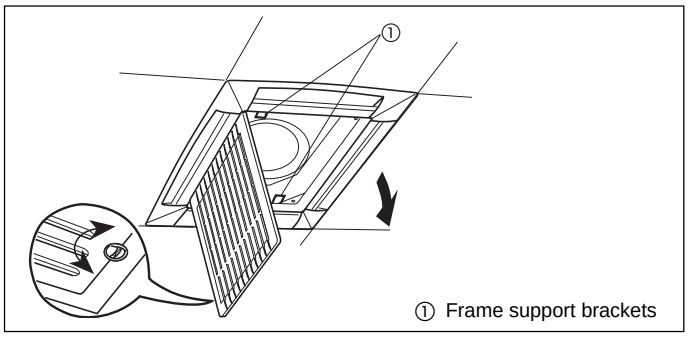
- After positioning the units and determining the connection position, make a 70 mm Ø hole in the wall. The same hole can be used as a condensate drain pipe conduit.
- The hole should have a 5 - 10 mm slope toward the outside. Insert the plastic conduit provided.
- Pass the power connection cables through the conduit (see electrical connections).

Condensate drain pipe



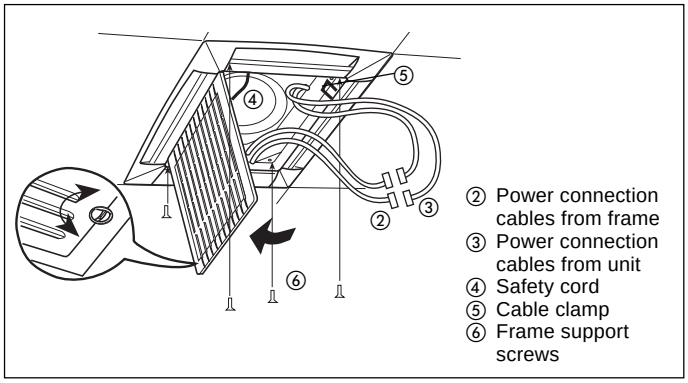


- To ensure correct condensate water flow, the drain pipe should have a gradient of 2% without obstructions.
  Furthermore an odour trap of at least 50 mm depth should be made to prevent unpleasant odours from reaching the room.
- Condensate may be discharged at a maximum height of 200 mm above the unit, as long as the ascending tube is vertical and aligned with the drainage flange.
- If it is necessary to discharge the condensate from a level above 200 mm, install an auxiliary water discharge pump and float valve.
  A float valve is recommended to stop the compressor if there is a fault at the auxiliary pump.
- The condensate pipe must be insulated with a condensation-proof material such as polyurethane, propylene or neoprene of 5 to 10 mm thickness.
- If more than one unit is installed in the room, the drain system can be made as shown in the drawing.

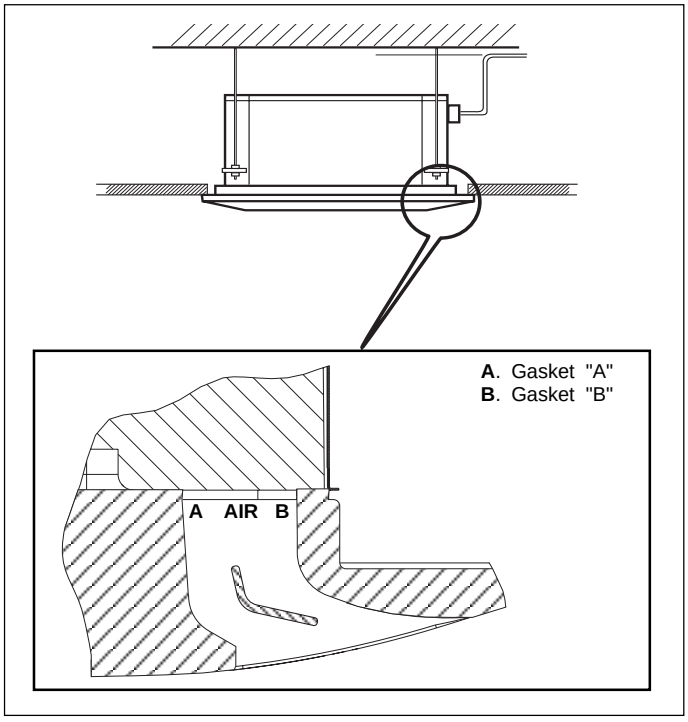


Installation of grille/frame assembly

Carefully unpack the assembly and check for damage sustained in transport. Attach the assembly to the unit by using the two hooks.



Tighten the four screws, link the electrical connectors and insert the wires in the cable clamp.
Use the screws supplied to fix the frame in position.



Ensure that the frame is not distorted by excessive tightening, that it is aligned with the false ceiling and above all that there is a seal between the air inlet and outlet.
In the drawing gasket "**A**" prevents return air from mixing with the supply air and gasket "**B**" prevents the supply air from leaking into the ceiling void.
On completion, the gap between the unit frame and the false ceiling must not be more than 5 mm.

Refrigerant connections

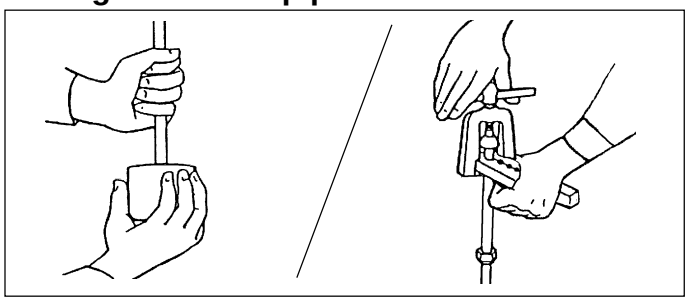
IMPORTANT:
During the unit installation make first refrigerant connections and then electrical connections. If unit is uninstalled first disconnect electrical cables, then refrigerant connections.

Refer to the outdoor unit installation manual for tube sizing, and limitations (slope, length, number of curves allowed, refrigerant charge, etc.).

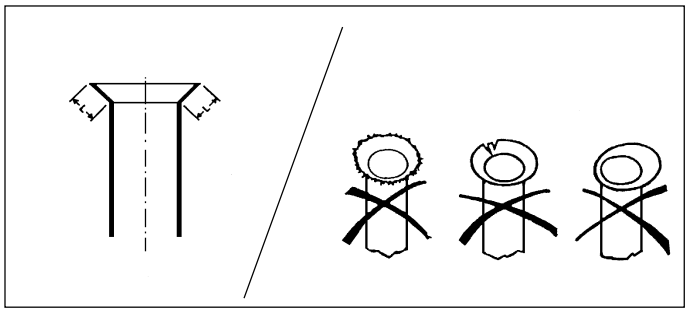
Mod.	Tube diameter			
	Gas (suction line)		Liquid (discharge line)	
	mm	(inches)	mm	(inches)
12 - 18 - 24	12.70	(1/2")	6.35	(1/4")
28	15.87	(5/8")	6.35	(1/4")
36 - 48 - 60	19.05	(3/4")	9.52	(3/8")

For refrigerant tubes use seamless, insulated refrigeration grade tube, (Cu DHP type according to ISO1337), degreased and deoxidized, suitable for operating pressures of at least 4200 kPa and for burst pressure of at least 20700 kPa.
Under no circumstances must sanitary type copper pipe be used.

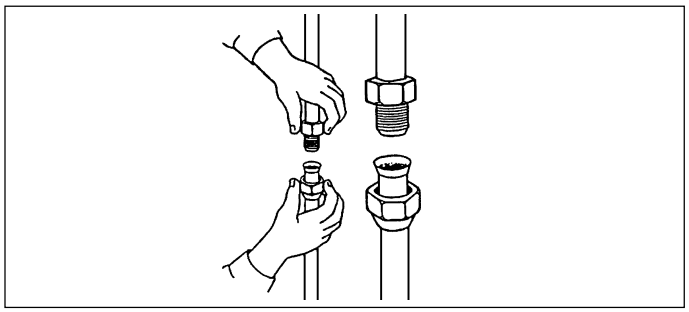
Flaring the end of pipes



Remove the protection caps from the copper pipe ends.
Holding the tube downward, cut the extreme end off, removing any copper shavings with a deburring blade.
Remove the flare nuts from the “FLARE” connection body of the indoor unit and insert them into the pipes.
Make the flare to the pipe end with the proper flaring tool.



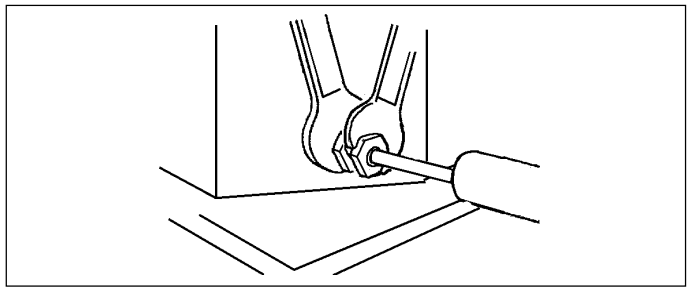
Flare end must not have any burrs or imperfections.
The length of the flared walls must be uniform.



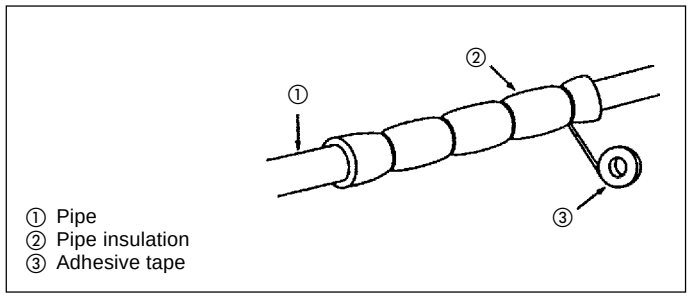
Lubricate the end of pipe and the thread of the flare connection with anti-freeze oil.
Tighten by hand and then use two wrenches to tighten all connections fully, applying the tightening torque shown in the table.

Pipe connection to the unit

Use two wrenches to tighten all connections.
Insufficient tightening torque could cause a refrigerant leak from the connection.
Excessive tightening torque will damage the pipe flare.



Tube diameter		Torque
mm	(inches)	Nm
6.35	(1/4")	18
9.52	(3/8")	42
12.70	(1/2")	55
15.87	(5/8")	65
19.05	(3/4")	100



① Pipe
② Pipe insulation
③ Adhesive tape

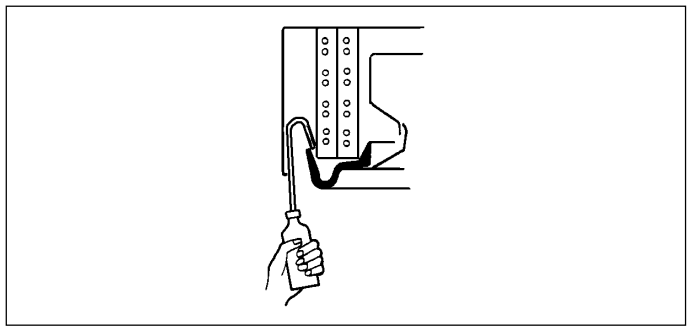
Once all connections have been completed, check for leaks using soapy water.
Finally, wrap connections with anti-condensate insulation and tighten with tape, without exerting excessive pressure on the insulation. Repair and cover any possible cracks in the insulation.

Extra charge of refrigerant (for R-410A only)

With pipe lengths up to 8 metres, the models shown below need an extra charge of refrigerant (R-410A).
For longer pipes, refer to the outdoor unit installation manual.

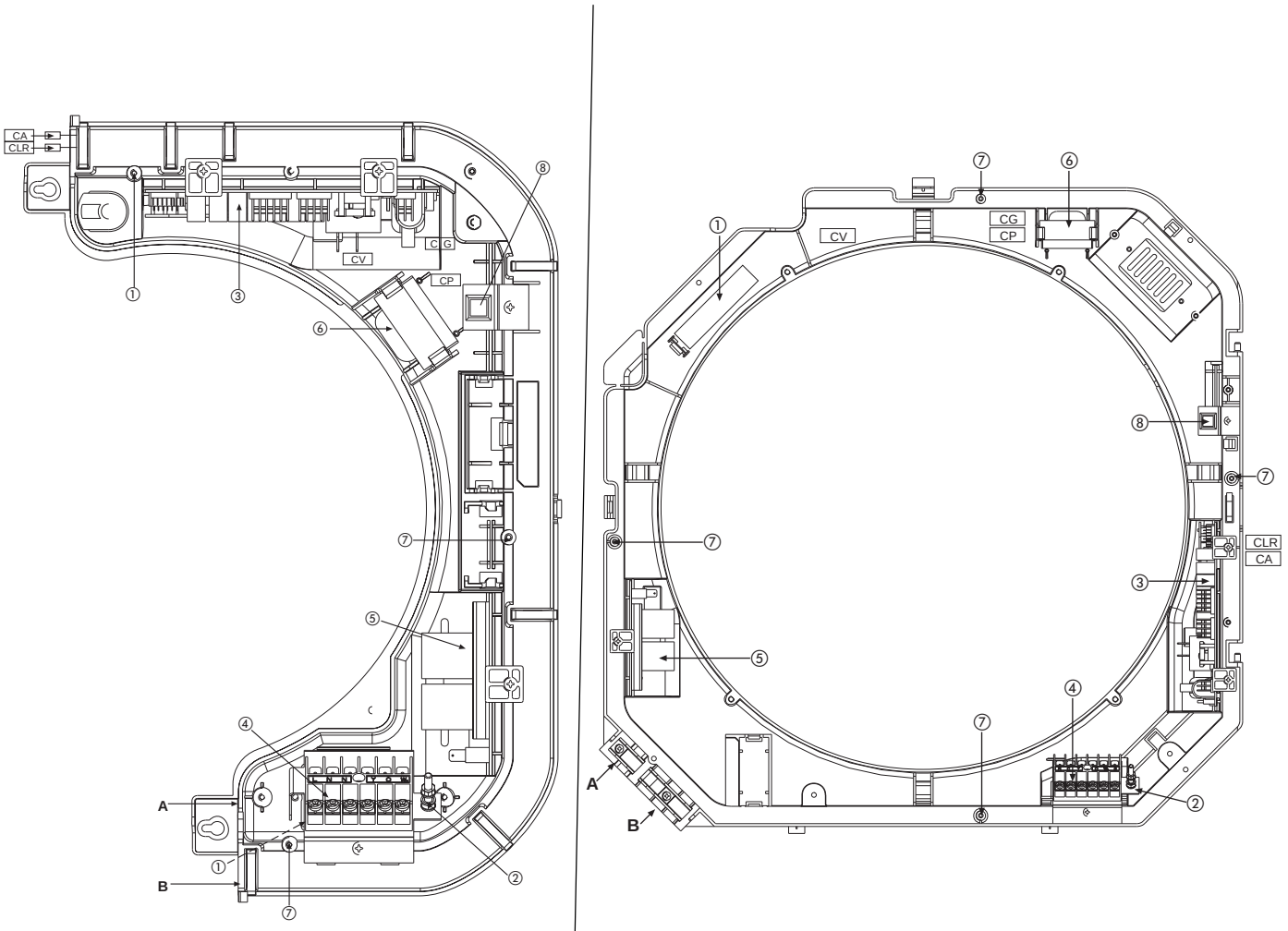
Indoor unit model	40KMC024N 40KMC124EN	40KMC018N 40KMC118EN
Outdoor unit model	38GL024G	38YY018G
Pipe lengths up to 8 m	70 g	110 g

Checking



Pour several litres of water into the condensate drain pan and check that it flows freely to the drain.
Check pipe gradient and look for possible obstructions.

40KMC---N
Electrical connections



CONTROL PANEL
mod. 12 - 18 - 24

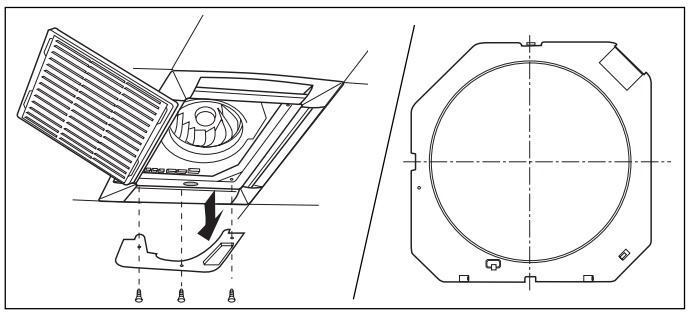
CONTROL PANEL
mod. 28 - 36 - 48 - 60

① Condenser (under main terminal board)
② Ground connection screws
③ GMC board
④ Outdoor unit connection terminal board
⑤ Relay board (only on models with electric heater)
⑥ Transformer
⑦ Holes for fixing panel in position
⑧ Emergency push-button

CV Fan connector
CLR LED/RECEIVER connector
CG Float connector
CP Pump connector
CA Louvre connector

A. Electric heater supply connection
B. Outdoor unit connection

Control panel can be reached by opening the grille and removing its metal cover by 4 screws.



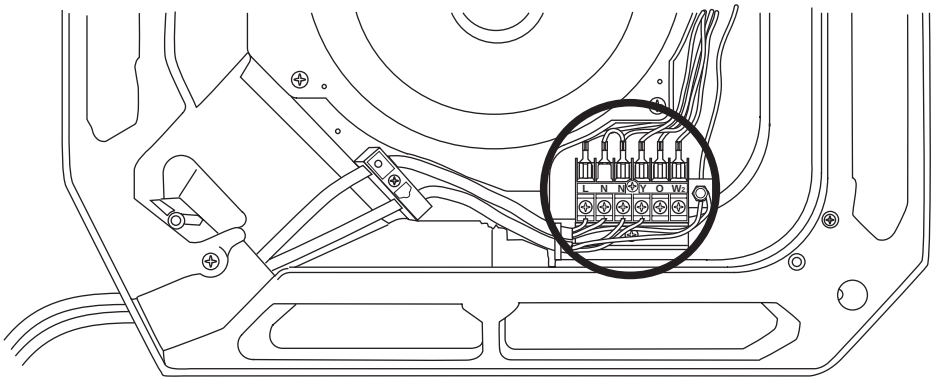
IMPORTANT for units equipped with electric heater:
The unit is equipped with two thermostats: one with automatic reset and one with manual (electric) reset that can be reactivated by switching the power supply off and then on.

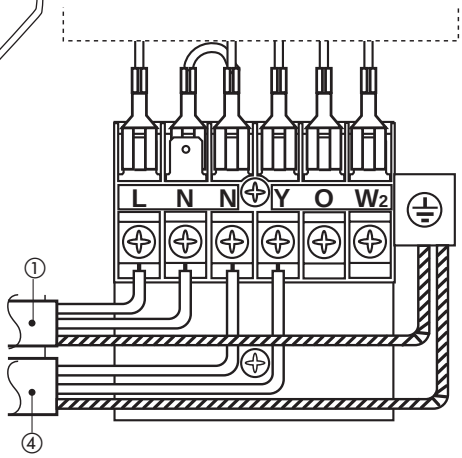
SYSTEM CONFIGURATION

IMPORTANT:
- **Make ground connection prior to any other electrical connections.**

- If the is fitted with an electric heater, this must have a separate power supply.
- Make the electrical connections between units prior to proceeding to the main supply unit connection.
- According to the installation instructions, the disconnecting switches from the mains power supply should have a contact gap (4 mm) such that total disconnection can be ensured under the conditions provided for by overvoltage class III.
- **Make sure the electric heaters power supply cable is fixed as shown in the figure CABLE PASSAGE (see page 14). Make certain that the YELLOW/GREEN cable is stripped back further than the others.**

Cooling only - 40KMC012N

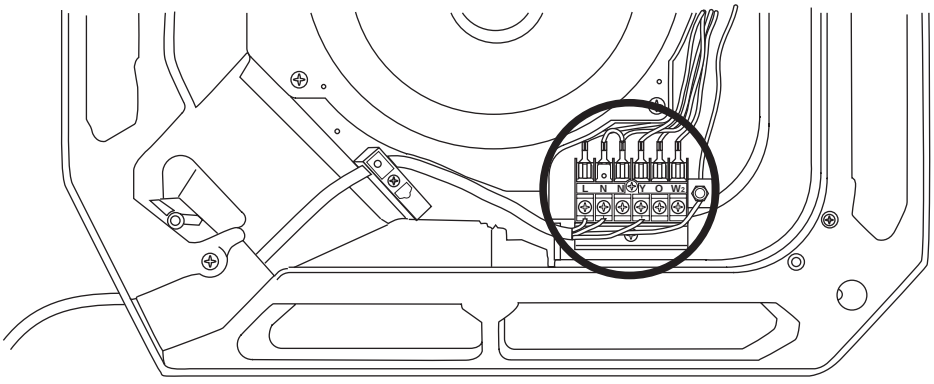


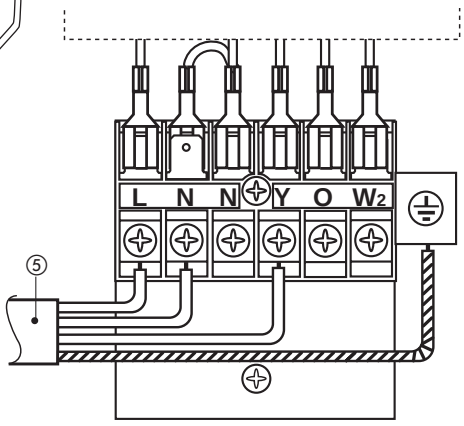


WARNING:
The ground wire for the indoor unit-outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole.

				Indoor and outdoor units interconnection (mm²)				
Model	**GND**	**L**	**N**	**N**	**Y**	**GND**	**O**	**W2**
40KMC012N	3G2.5			3G2.5			-	-

Cooling only - 40KMC012N





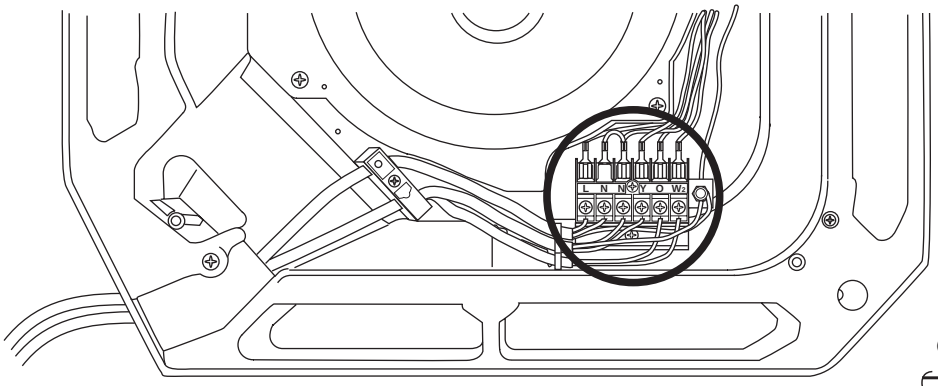
WARNING:
The ground wire for the indoor unit-outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole.

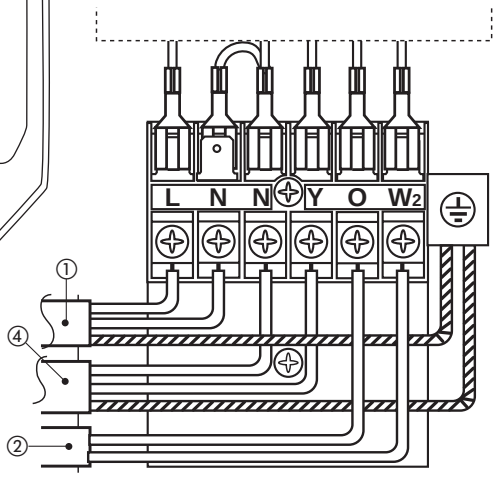
	Indoor and outdoor units interconnection (mm²)					
Model	**GND**	**L**	**N**	**Y**	**O**	**W2**
40KMC012N	4G2.5				-	-
40KMC012N connected to a multisplit unit	4G1				-	-

40KMC---N

Electrical connections

Heat pump - 40KMC012N

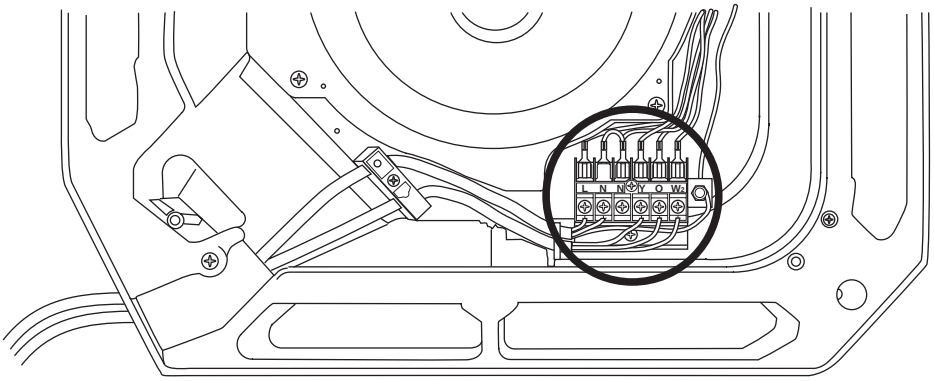


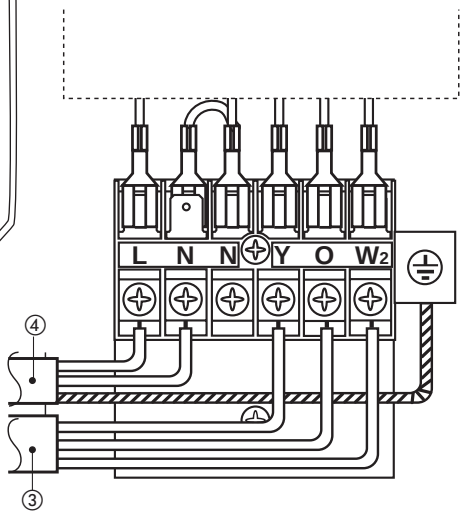


WARNING:
The ground wire for the indoor unit-outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole.

				Indoor and outdoor units interconnection (mm²)				
Model	**GND**	**L**	**N**	**N**	**Y**	**GND**	**O**	**W2**
40KMC012N	3G2.5			3G2.5			2x1.5	

Heat pump - 40KMC012N



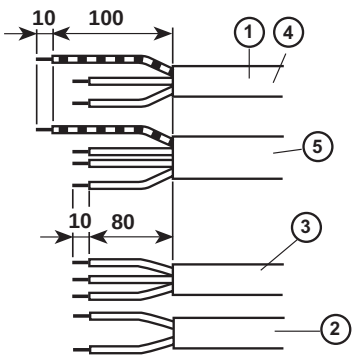


WARNING:
The ground wire for the indoor unit-outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole.

	Indoor and outdoor units interconnection (mm²)						
Model	**GND**	**L**	**N**	**N**	**Y**	**O**	**W2**
40KMC012N connected to a multisplit unit	3G1			-	3x1		

Terminal box legend, all models

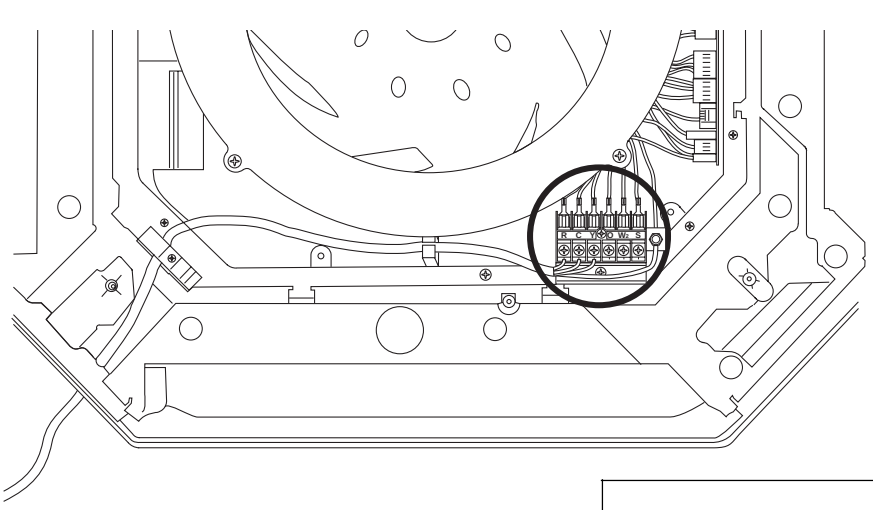
⏚	Earth
L	Live power supply
N	Neutral power supply
N	Neutral connection indoor/outdoor unit
Y	Compressor interlocking contact
O	Reversing valve control
W2	Outdoor fan signal

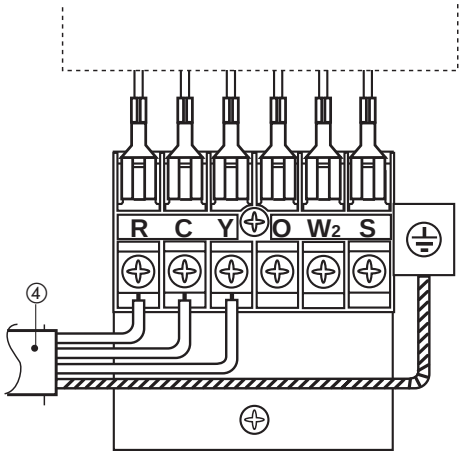


① Power supply cable (H07 RN-F)
② Interconnection cable (H07 RN-F)
③ Interconnection cable (H07 RN-F)
④ Interconnection cable (H07 RN-F)
⑤ Interconnection cable (H07 RN-F)

Notes:
- **See outdoor unit installation manual.**
- **For correct passage of cables, please refer to the drawing shown at the end of this section.**

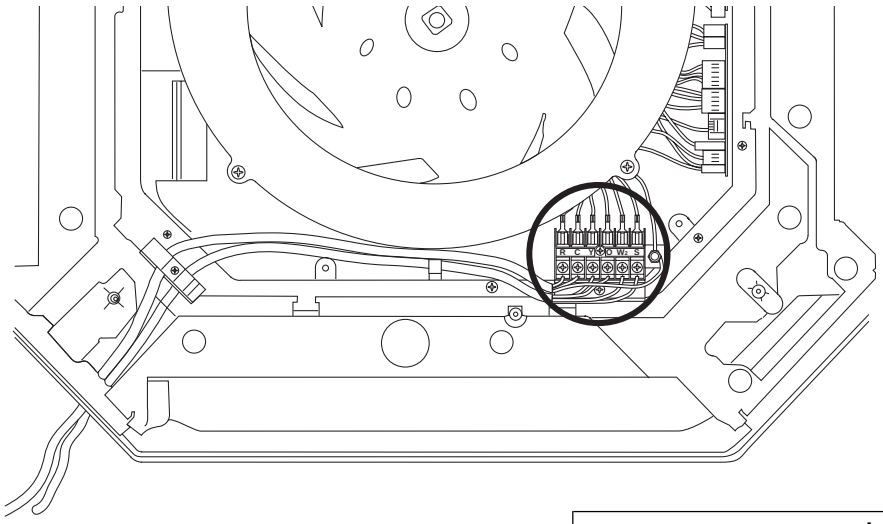
Cooling only - 40KMC 018N, 024N, 036N, 048N, 060N

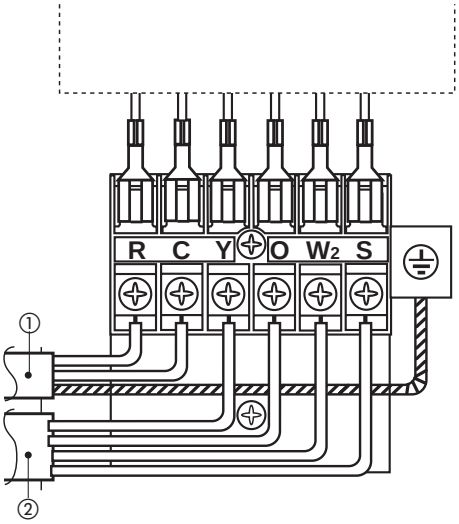




Model	Indoor and outdoor units interconnection (mm²)						
	GND	R	C	Y	O	W2	S
40KMC 018, 024N	4G1				Disconnected		
40KMC 036, 048, 060N							

Heat pump - 40KMC 018N, 024N, 036N, 048N, 060N

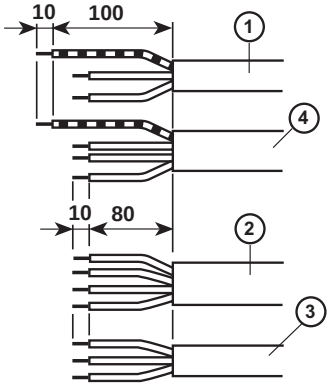




Model	Indoor and outdoor units interconnection (mm²)						
	GND	R	C	Y	O	W2	S
40KMC 018, 024N	3G1			4 x 1			
40KMC 036, 048, 060N							
40KMC 018, 024N combined with Multisplit	3G1			3 x 1			-

Terminal box legend, all models

⏚	Earth
R	Live connection indoor/outdoor unit
C	Neutral connection indoor/outdoor unit
Y	Compressor interlocking contact
O	Reversing valve control
W2	Outdoor fan signal
S	Defrost end signal



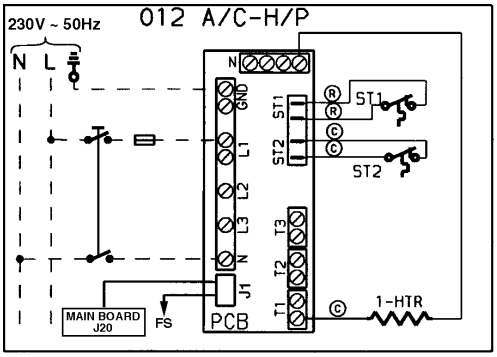
① Interconnection cable (H07 RN-F)
② Interconnection cable (H07 RN-F)
③ Interconnection cable (H07 RN-F)
④ Interconnection cable (H07 RN-F)

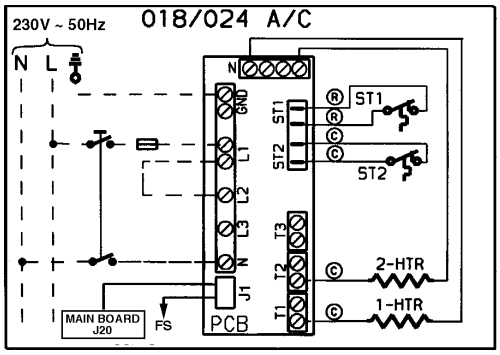
Notes:
- **See outdoor unit installation manual.**
- **For correct passage of cables, please refer to the drawing shown at the end of this section.**

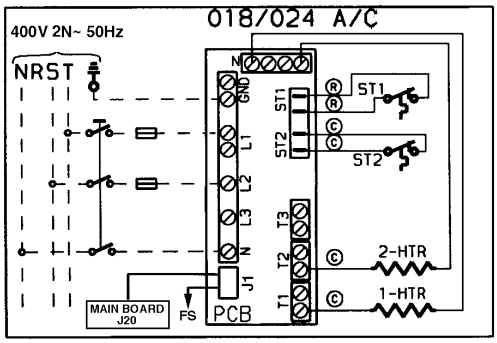
40KMC---N

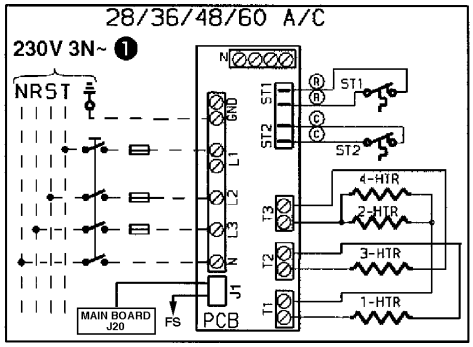
Electrical connections

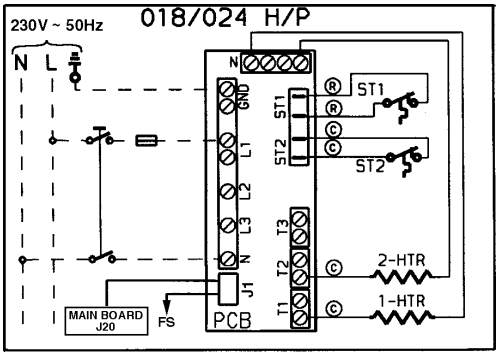
Wiring diagram - Cooling only or heat pump units with electric heater

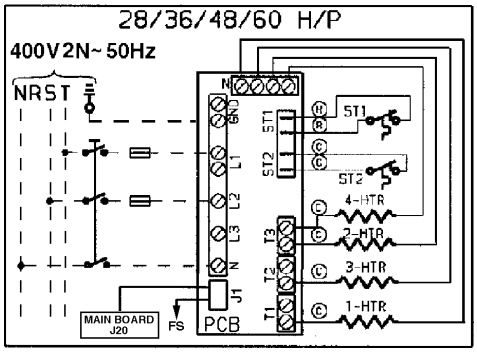


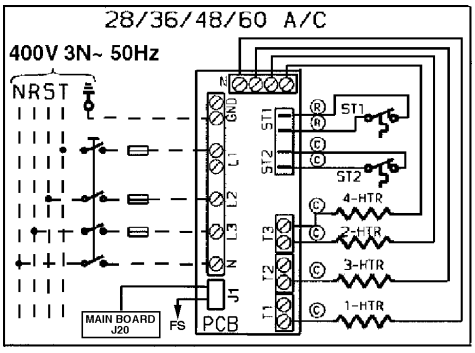












A/C COOLING ONLY
H/P HEAT PUMP
❶ 60Hz Special Exsport Market

NOTE:

THE ELECTRIC HEATER POWER SUPPLY CABLE MUST BE OF THE 5G2.5 H07 RN-F TYPE.

LEGEND

———	FACTORY WIRING
— —	FIELD WIRING
	CONNECTOR
	TERMINAL ON COMPONENT
	TERMINAL ON STRIP
	NORMALLY CLOSE CONTACT
	NORMALLY OPEN CONTACT
	CAPACITOR
	SENSOR
	TRANSFORMER
FC	FAN CAPACITOR
FS	SAFETY MICRO FLOAT
IFM	INDOOR FAN MOTOR
PS	DRAIN PUMP
T	TRANSFORMER
C1	LED/IR BOARD CONNECTOR
C2	FLOAT CONNECTOR
C3	FAN MOTOR CONNECTOR
C4	LOUVRE MOTOR CONNECTOR
C5	PUMP CONNECTOR
* LM	LOUVRE MOTOR
* MSL	MICROSWITCH LOUVRE
PCB	RELAY BOARD
HTR	ELECTRIC HEATER
ST	SAFETY THERMOSTAT
*	IF PRESENT
R-	LIVE POWER SUPPLY
C-	NEUTRAL POWER SUPPLY

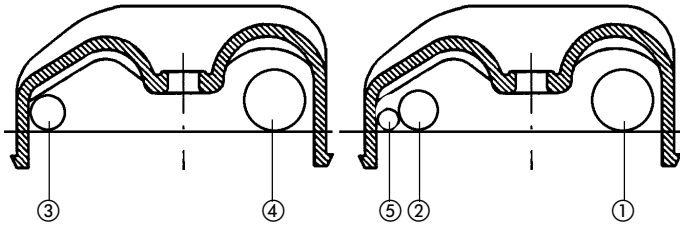
WIRE COLOURS

A	BROWN	O	ORANGE
B	BLUE	R	RED
C	BLACK	W	WHITE
G	GREY	Y	YELLOW
Y-G	YELLOW/GREEN		

IMPORTANT

THE WARRANTY WILL BE INVALIDATED, IF FACTORY WIRING AND SETTINGS ARE FIELD-CHANGED.

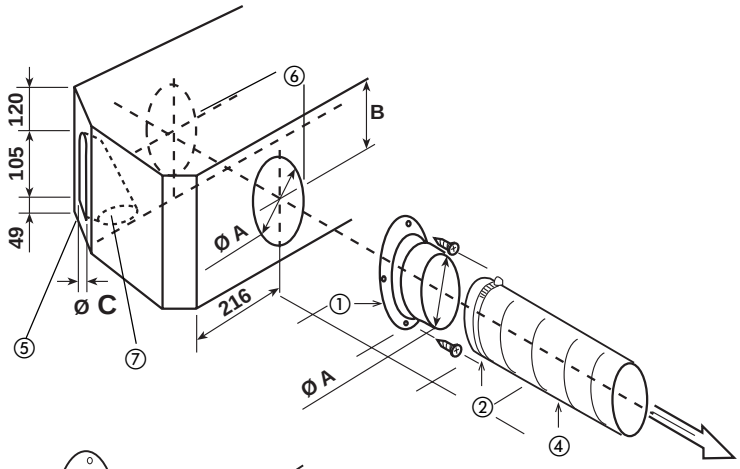
Cable passage

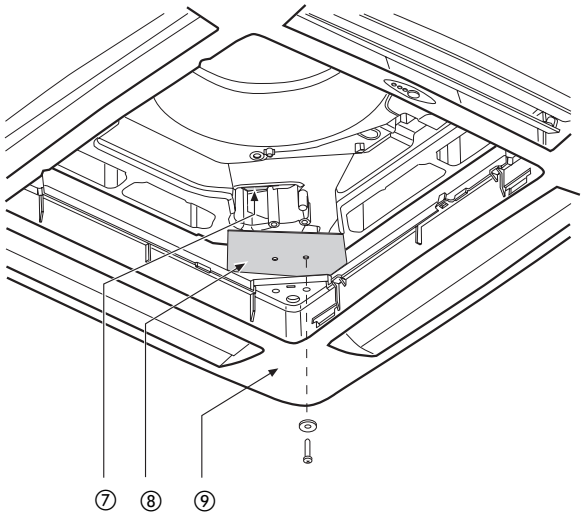


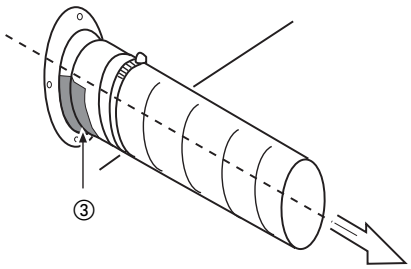
① Power supply cable
② Interconnection cable
③ Interconnection cable
④ Electric heaters power supply cable (optional)
⑤ Room Controller/CZM connecting cable (optional)
Refer to the control manual.

40KMC---N

Fresh air renewal and conditioned air supply to an adjacent room



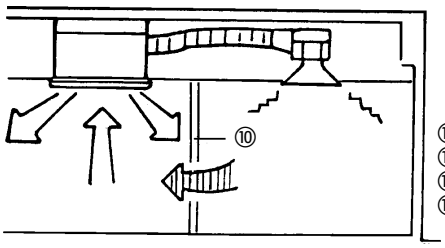




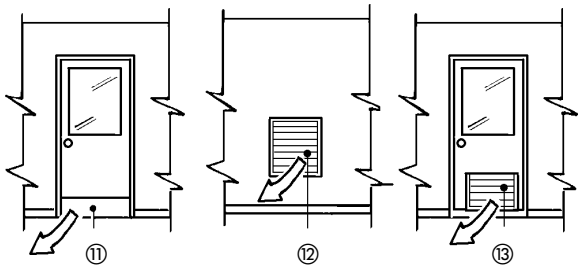
Model		012N-018N-024N	028N-036N-048N-060N
Ø A	mm	150	150
B	mm	120	120
Ø C	mm	70	100

① Duct connection flange
② Clip
③ 6 mm neoprene gasket
④ Insulated flexible duct
⑤ Fresh air intake
⑥ Conditioned air supply to an adjacent room
⑦ Polystyrene partition
⑧ Baffle
⑨ Frame

Air intake grille



⑩ Wall
⑪ Undercut door
⑫ Wall-fitted grille
⑬ Door-fitted grille



- Side knockouts allow connection of fresh air inlet ducts and ducts to deliver conditioned air to an adjacent room.
- Remove the external prepunched anti-condensate insulation and take away the knockout panels using a punch.

Air distribution to adjacent room

With a pencil, trace a line on the polystyrene around the inside edges of the panel that was previously removed.
Cut away the polystyrene with a knife, taking care not to damage the heat exchange coil.

Fresh air intake

Remove the polystyrene partition.
Introduce baffle supplied after frame has been hooked as per above figure.

Following that screw the frame/grille assembly using the 4 screws.

- Use locally purchased material, suitable for operating temperatures of 60 °C (continuous).
  Conduits can be of flexible polyester (with spiral core) or corrugated aluminium, externally covered with anti-condensate material (fibre glass from 12 to 25 mm thickness).
- To complete the installation, all non-insulated ducts must be covered with anti-condensate insulation (ex. expanded neoprene, 6 mm thickness).

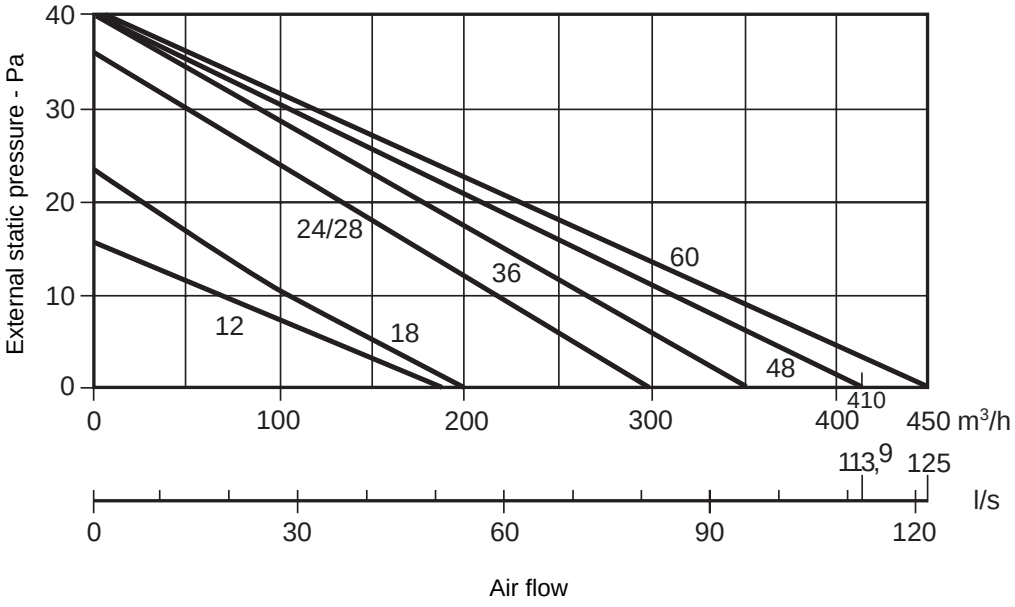
Not observing of these instructions may cause condensate dripping; the manufacturer will not be held responsible for any damage caused.

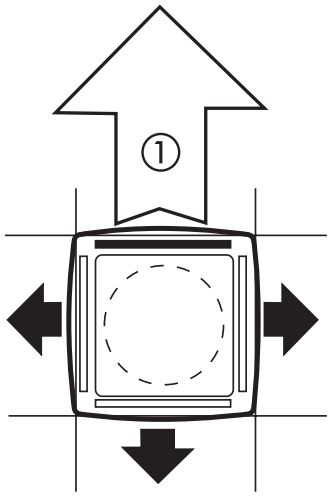
- The two prepunched side knockouts must not be used at the same time to deliver conditioned air to an adjacent room.
- The return and supply duct lengths can be calculated in accordance with the “air distribution to an adjacent room” and “fresh air renewal” diagrams (also taking into account the pressure drop through air diffusers, grilles and fresh air filters), as well as the increase in noise caused by these ducts.

40KMC---N

Fresh air renewal and conditioned air supply to an adjacent room

Diagram of conditioned air supply to an adjacent room: one louvre closed





① Supply air duct to adjacent room

In case of two louvres closed, the fresh air flow towards the adjacent room is 50% higher compared with only one louvre closed (with equal static external pressure).

Fresh air renewal

- The supplementary fan motor for outside air intake has to be supplied separately and controlled by a bipolar ON-OFF switch with safety fuses (field-installed).
  To adjust the fan motor air flow to the required values it is advisable to install a speed controller.
  Fresh air flow must be less than 10% of the total air flow, to avoid operating problems.
  For fresh air ventilation rates higher than 10%, a primary air treatment system with separate deflectors is recommended.

- Install an air inlet grille with filter inspection port to prevent dust and dirt from entering and fouling the indoor unit heat exchanger.
  Filter installation also makes the installation of a duct closing damper during shutdown periods unnecessary.

Conditioned air supply to an adjacent room

- **Air supply to an adjacent room requires that the outlet corresponding with the duct is closed, using the air supply outlet obstruction kit supplied.**
  The kit cannot be used in units equipped with electric heater.
  An air inlet grille must be fitted (if possible near the floor) between the air conditioned room (where the unit is situated) and the adjacent room or, alternatively, the door must be undercut, as shown in the drawing.

- The duct lengths can be calculated in accordance with the “air distribution to an adjacent room” diagram, also taking into account the pressure drop through air diffusers and fresh air filters.

- DO NOT use active carbon or electrostatic filter kits for ducts towards adjacent rooms.

System configuration

The unit settings are made at the factory (refer to the specific instruction sheet).
In the case of system installation other than the original one (as referred to in the specific instruction sheet) the factory configuration must be changed.
Such operation must be performed by the installer as follows:

Cooling only configuration (of the system)

- Check all electrical connections (instructions and wiring diagram).
- Insert the batteries into the remote control and leave it OFF.
- Energise the system, turning the power supply ON.
- Press the M and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the time segments will display the first configuration item (rAdr = remote address) and the temperature segments will display the default value of this configuration item (Ab = control of both indoor units).
- Press button M repeatedly until “UCFG” is displayed.
- Press either the ∧ or ∨ button to change the default value (HP) to the new value (CO).
- Press the button to send the configuration to the unit, which will confirm with a “beep”.
- Press ⏻ button to leave the configuration menu.

For other available configuration options, see table VII.

Heat pump configuration (of the system)

- Check all electrical connections (instructions and wiring diagram).
- Insert the batteries into the remote control and leave it OFF.
- Energise the system, turning the power supply ON.
- Press the M and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the time segments will display the first configuration item (rAdr = remote address) and the temperature segments will display the default value of this configuration item (Ab = control of both indoor units).
- Press button M repeatedly until “UCFG” is displayed.
- Press either the ∧ or ∨ button to change the default value (CO) to the new value (HP).
- Press the button to send the configuration to the unit, which will confirm with a “beep”.
- Press ⏻ button to leave the configuration menu.

For other available configuration options, see table VII.

Multisplit/T-Kit configuration

- Check all electrical connections (instructions and wiring diagram).
- Insert the batteries into the remote control and leave it OFF.
- Energise the system, turning the power supply ON.
- Press the M and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the time segments will display the first configuration item (rAdr = remote address) and the temperature segments will display the default value of this configuration item (Ab = control of both indoor units).
- Push M button until will appear “**GFdn**” on the display.
- Through the buttons ∧ and ∨ to change the default value “1” into 239 for T-KIT configuration or 240 for MULTISPLIT configuration.
- Press the button to send the configuration to the unit, which will confirm with a “beep”.
- Press the ⏻ button to exit from this configuration menu.

Note:
When 30 seconds have elapsed and no buttons have been pressed, the remote controller will automatically exit the configuration menu and the procedure has to be restarted.

Cooling only configuration (of the remote controller)

- Insert the batteries into the remote controller and leave it OFF.
- Press the ∨ and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the temperature segments will display the first configuration item (CH = remote address) and the time segments will display the default value of this configuration item (Ab = control of both indoor units).
- Press button M repeatedly until “rc” is displayed.
- Press either the ∧ or ∨ button to change the default value (HP) to the new value (CO).
- Press the button to send the configuration to the unit, which will confirm with a “beep”.
- Press ⏻ button to save the new remote control configuration.

For other available configuration options, see table VIII.

Note:
When 30 seconds have elapsed and no buttons have been pressed, the remote controller will automatically exit the configuration menu and the procedure has to be restarted.

Table VII

Item	Shown on display	Options	Description
1	“rAdr”	“A”: remote unit A “b”: remote unit B “Ab”: remote units A and B	Remote address indoor unit A. See paragraph "address selector" Remote address indoor unit B. See paragraph "address selector" Default address is both indoor units.
2	“UCFG”	“HP”: heat pump “AC”: cooling only	Refer to the specific instruction sheet
3	“UAdr”	1-$_2$40 with increase of 1	Unit CCN address (Carrier Confort Network) Default = 1.
4	“ZONE”	1-$_2$40 with increase of 1	Number of zone. Default = 0.
5	“GFdn”	1-$_2$40 with increase of 1	Default = 1. (Monosplit systems) $_2$39 = configured as T-kit $_2$40 = configured as multisplit
6	“A St”	“OF”: The unit remains OFF “On”: Unit automatic restarting	Choose of operating mode after a power supply interruption. Pre-arranged "ON".

Operating test, address switch and address selector

Table VIII

Shown on display	Options	Description
“CH”	“A”: unit A “b”: unit B “Ab”: units A and B	Address indoor unit A. See paragraph "address selector" Address indoor unit B. See paragraph "address selector" Default address is both indoor units.
“tU”	“C”: Degrees Celsius “F”: Degrees Fahrenheit	Temperature. Default is °C.
“rc”	“HP”: heat pump “CO”: cooling only	Default address is heat pump. Change address for cooling only.
“Hr”	17 – 32: 17°C ÷ 32°C 63 – 90: 63°F ÷ 90°F	Heating temperature range °C min. and max. Heating temperature range °F min. and max.
“Cr”	17 – 32: 17°C ÷ 32°C 63 – 90: 63°F ÷ 90°F	Cooling temperature range °C min. and max. Cooling temperature range °F min. and max.
“CL”	12 : 12: hour clock (AM/PM) 24 : 24: hour clock	Time format (AM = morning; PM = afternoon). Default is 12 : 12.

NOTE: If the selection is changed from “rc” (HP operation) to cooling only and the remote control operating mode is auto or heating, the operating mode is set to cool.

NOTE: If the “HR” is set to a value that is lower than “CR” and the remote control operating mode is auto, the operating mode is set to cooling.

Operating test

- Perform the operating test after the units have been installed in position and the gas leak test has been completed.
- Check all electrical connections (instructions and wiring diagram).
- Insert the batteries into the remote control and leave it OFF.
- Energise the system, turning the power supply ON.
- Press the ∧ and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
  The display will be cleared, the time segments will display the icon (Src = service test).

This procedure is used to check the operation after unit installation.

- Press the EMER. button continuously for 5~10 seconds.
  The unit will now be in Test Mode.
- Press the EMER. button once more after checking, to activate the remote control. If there is any input signal (remote control signal or EMER. button press) during test operation, the TEST mode will change to the input signal mode.
- The setting conditions of the test operation are as follows:
  - Operating mode: COOL
  - Fan speed: HIGH
  - Timer mode: Disabled
  - Discharge air direction: SWING

NOTE:
- Indoor fan speed will be "HIGH" in Test operation.
- The swing motor will operate when the indoor fan is operated.
- Operate the unit in accordance with the Owner's Manual and check the following:
  a. Indoor unit.
  - Do all switches operate normally?
  - Does each light come on normally?
  - Do the horizontal louvres operate normally?
  - Is the drain correct?

  b. Outdoor unit.
  - Is there any abnormal noise or vibration during operation?
  - Is there any gas leakage?

Address switch

If you are installing two indoor units in the same room, it is necessary for you to assign each unit its own address so each can be operated by its own remote control.
One address switch is on the back of remote control, and the other is in the PCB side.
The address switch is set to A when you purchase the unit.

- **Remote control**
  - Remove the lid of the battery case.
  - Assign the address switch of one remote control to B.
  - Press the **RST** button with a sharp object.
- **Indoor unit**
  - Turn off the unit and pull out the power plug.
  - Remove the front panel and terminal block cover.
  - Assign the address switch of one indoor unit to B.
- After test has been completed, press ⏻ button to leave the test menu.

Note: When 30 minutes have elapsed and no buttons have been pressed, the remote control will automatically exit the test menu and resume its normal operation.

Address selector

If you are installing two indoor units in the same room and you want them to operate in independent mode, it is necessary to assign each unit its own address so that each unit can operate via its own remote control. For configuration, proceed as follows:
- Switch the remote control off (OFF).

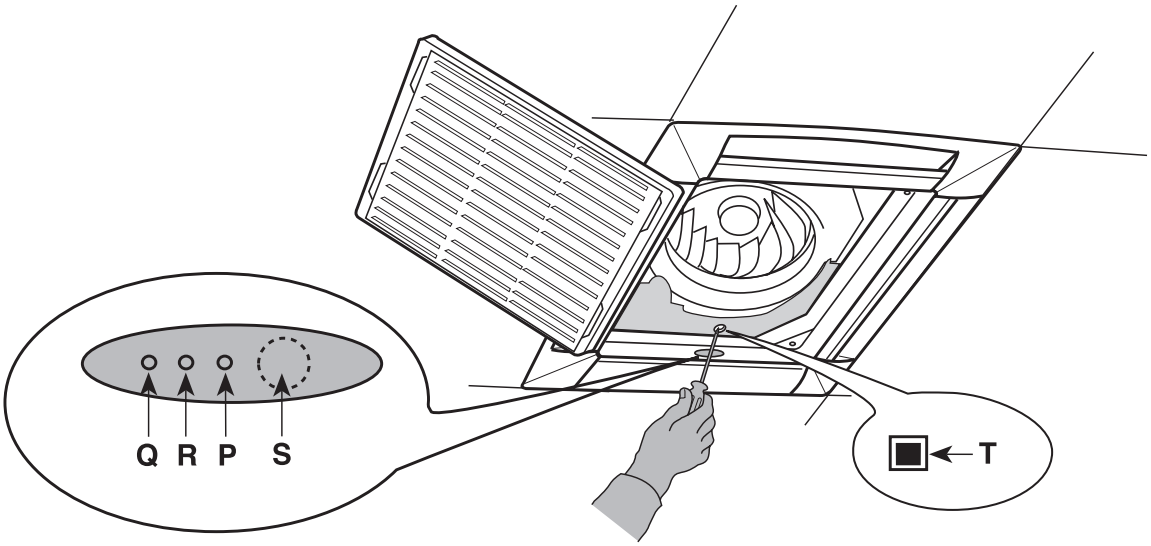
Configuration (of the unit)
- Press the M and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the time segments will display the first configuration item (rAdr = remote address) and the temperature segments will display the default value of this configuration item (Ab = control of both indoor units).
- Press either the ∧ or ∨ button to change the default value (Ab) to the new value (A) or (b).
- Press button to transmit the new configuration to the unit.
- Press ⏻ button to leave the configuration menu.

Configuration (of the remote controller)
- Press the ∨ and buttons of the infrared remote control and hold them pressed for more than 5 seconds.
- The display will be cleared, the temperature segments will display the first configuration item (CH = remote address) and the time segments will display the default value of this configuration item (Ab = control of both indoor units).
- Press either the ∧ or ∨ button to change the default value (Ab) to the new value (A) or (b).
- Press button to transmit the new configuration to the unit.
- Press ⏻ button to leave the configuration menu.

Note: When 30 seconds have elapsed and no buttons have been pressed, the remote control will automatically exit the configuration menu and the procedure has to be restarted.

Fault code, button T: “EMERGENCY” and guide for the owner

Warning lamps and emergency button



P : Green LED

Q : Red LED

R : Yellow LED

S : Remote control signal receiver

T : “Emergency”

Fault code

Once a failure occurs with the indoor unit in operation, the green unit LED flashes at intervals of 0.5 seconds.
The fault code is deduced from the number of times the green LED flashes, blocking unit operation.
Between one flash cycle and the next one, a pause of 5 seconds elapses.

Table IX: Fault code

Code	Description
3	Room air sensor fault
2	Condensate discharge pump
4	Indoor unit coil sensor fault
6*	Filter dirty
7	Outdoor unit failure
10	EEPROM corrupt
11	Card serial number damaged
12	Address / zone incomplete
13	Gas flow distributor corrupt

* with enabled code

Button T: “EMERGENCY”

This is used by qualified personnel only.

Can be used when the remote control is lost or inoperative.
Use a screwdriver to press the push-button through the metal protection grill.

Emergency operation:

When the unit is in the OFF mode and the **T** button is pressed for 5 seconds, the unit will operate as follows:

- Automatic mode
- Temperature preset to 22°C
- Automatic fan speed
- Louvres set automatically according to the operating mode
- OFF timer

When a signal is received by the remote control, the unit operates accordingly.

TEST operation:

Is exclusively used by service personnel to test unit operation.
The test procedure is activated via the remote control.

Guide for the owner

When installation and tests are completed explain the Operation and Maintenance Manual to the owner, with particular attention to the main operating modes of the air conditioner, such as:

- Turning the unit on and off.
- Functions of the remote control.

Leave the two installation manuals for the indoor and outdoor units with the owner for future use during maintenance operations or for any other needs.

Via R. Sanzio, 9 - 20058 Villasanta (MI) Italy - Tel. 039/3636.1

The manufacturer reserves the right to change any product specifications without notice.

December, 2005. Printed in Italy